Before the
Federal Communications Commission
Washington, D.C. 20554

ORIGINAL

In the Matter of	)	
	)	
The Provision of Interstate and International Interexchange Telecommunications Service Via The "Internet" By Non-Tariffed, Uncertificated Entities	)	RM No. 8775
	)	
America's Carriers Telecommunication Association	)	
	)	
Petition for Declaratory Ruling, Special Relief, and Institution of Rulemaking	)	

JOINT OPPOSITION OF NETSCAPE COMMUNICATIONS CORPORATION, VOXWARE, INC. AND INSOFT, INC.

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SUMMARY

The ACTA Petition seeks to prevent competition for interstate and international voice communications from Internet-based telephony software. This is a blatant plea for regulatory protectionism. It contradicts long-standing FCC policies regarding the role of competition in the interstate telecommunications market, conflicts with the proper approach to communications regulation in an era of robust technological innovation, and undermines the procompetitive, deregulatory mandate of the Telecommunications Act of 1996.

Software manufacturers are not telecommunications carriers subject to the Commission's jurisdiction. Even if Internet voice communications are "telecommunications services" under the landmark Telecommunications Act of 1996, there is no identifiable carrier of an Internet "call," one of many ways in which the Internet is a unique medium that simply does not fit within the traditional model for circuit-switched telephone regulation. The settled Commission approach to the Internet—treating the Internet as an "enhanced" service under *Computer II* rather than a common carrier service under Title II of the Communications Act of 1934—continues to be the correct response to the rapidly changing technology of Internet communications. ACTA's naked claims aside, voice and video communications on the Internet do no violence whatever to the Commission's regulation of interstate long-distance services and are no threat to the infrastructure stability or continued growth of the Internet itself.

Regardless of the scope of the Commission's jurisdiction over the Internet and Internet communications services, ACTA's request that the FCC assert regulatory

authority to define "permissible uses" for this revolutionary new medium and to protect interexchange resellers against the competitive threat of Internet-based telephony services is bad policy, logistically impossible and contrary to long-standing procompetitive Commission principles.

Internet software vendors and ISPs are rapidly developing new multimedia voice and video capabilities that will dramatically enhance consumers' options for communications, of which Internet telephony—voice communications completed over the Internet's "network of networks"—is just one part. This is a manifestly procompetitive development offering consumers a wealth of new communications alternatives. Consequently, the Commission has a duty to do more than reject ACTA's preposterous proposal that it assert jurisdiction over computer software. Netscape, Voxware and InSoft, the leading developers of Internet audio and video software, urge the Commission to move beyond the narrow tariffing questions presented by ACTA to grapple with the underlying issue of how, if at all, Title II regulation should apply to the emergence of the Internet as a tool for the transmission of real-time voice and video information.

As Commissioner Chong has observed, the Internet has been successful in large part because "government has kept its mitts off," a principle which should be reaffirmed and made a concrete reality in this proceeding. The Commission's traditional "forbearance" policy is perfectly suited to Internet telephony, which is the epitome of a "nondominant," competitive service. Indeed, the FCC has an obligation under the 1996 Act to forbear from regulation of Internet voice telecommunications. The FCC should preempt state public service commission regulatory authority over the Internet because

Internet communications are inherently interstate and because the 1996 Act establishes a uniform, national policy precluding regulation of the Internet. Finally, the Commission should promote the important interest of the Internet and US-based Internet entities in a competitive, deregulated international telecommunications environment.

By adopting this three-pronged approach of *forbearing, preempting and promoting* Internet communications and services, the FCC will remove the regulatory cloud presently surrounding Internet telephony, and fashion a principled basis on which the Internet can continue to evolve and expand without regulatory interference and with full government support for its liberating and "world-shrinking" potential.

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Netscape Communications Corporation ("Netscape"), Voxware, Inc. ("Voxware") and InSoft, Inc. ("InSoft"), by their attorneys and pursuant to Section 1.405(a) of the Commission's Rules, 47 C.F.R. § 1.405(a), hereby oppose the Petition of America's Carriers Telecommunication Association ("ACTA") seeking FCC regulation—more specifically cessation—of Internet voice communications.[1]

Regardless of the scope of the Commission's legal jurisdiction over the Internet and Internet communications services, ACTA's request that the FCC assert regulatory authority to define "permissible uses" for this revolutionary new medium and to pro-

[1] *The Provision of Interstate and International Interexchange Telecommunications Service Via the "Internet" By Non-Tariffed, Uncertificated Entities*, Petition for Declaratory Ruling, Special Relief and Institution of Rulemaking, RM No. 8775 (filed March 4, 1996)("Petition"). The Commission put the Petition on Public Notice for comment on March 8, 1996 (Rep. No. 2124). The Common Carrier Bureau subsequently established a consolidated pleading cycle for all of ACTA's requests and extended the deadline for filing comments until May 8, 1996. Rep. No. CC 96-10, DA 96-414 (March 25, 1996).

tect existing interexchange telecommunications carriers against the competitive threat of Internet-based telephony services is bad policy, logistically impossible and contrary to long-standing procompetitive Commission principles. The Commission should dismiss the Petition, and use this proceeding to formally apply its "forbearance" policy to Internet telecommunications services and to preempt state regulation of the Internet.[2]

INTRODUCTION

ACTA's Petition takes antiquated doctrines and rhetoric from the realm of public utility regulation and attempts to bootstrap them into the new and quite different world of the Internet. That would be bad enough, but ACTA goes further, basing its requests on legal theories and protectionist regulatory policies that have long been discarded as inappropriate even for interstate telecommunications services. In short, ACTA's Petition asks the Commission to do the impossible—to use regulation as a shield against technological development and competition—and the unthinkable—to assert FCC regulatory jurisdiction over mere manufacturers of computer software.

The ACTA Petition asks the Commission for three forms of relief. First, ACTA requests a declaratory ruling "establishing [the FCC's] interest in and authority over interstate and international communications service using the Internet." Petition at 4. Second, ACTA seeks what it terms "special relief," namely an Order directing providers of Internet phone software to "immediately stop the sale of this software." *Id.* at 4, 11. Third, ACTA urges the Commission to initiate a rulemaking to consider rules

[2] This document is also available via the Internet's World Wide Web at the following URL address—http://www.technologylaw.com/techlaw/acta_comm.html.

"governing the use of the Internet" and "defin[ing] permissible communications over the Internet. *Id.* at i, 11.

Although ACTA concedes that the subject of these requests is "computer software" which enables the "new technology" of the Internet to carry voice transmissions, *id.* at i, there is little if any recognition in the Petition that the Internet is a rapidly growing, revolutionary global medium for communication, information exchange and commercial transactions.[3] The Internet enhances both enterprise effectiveness in worldwide competitive marketplaces and integration of individual citizens into the larger "virtual" community of cyberspace. Just as the Internet is changing society and the economy, the Internet itself continues its remarkable pace of technological growth and evolution. In fact, Internet software vendors and Internet service providers ("ISPs")[4] are rapidly developing new multimedia voice and video capabilities that will dramatically enhance consumers' options for communications, of which Internet telephony—voice communications completed over the Internet's "network of networks"—is just one part.

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[3] The Internet is a complex global network consisting of thousands of independent computer networks run by private businesses, government agencies and educational and research institutions. Rather than a specific kind of network, however, the Internet is in some respects better conceptualized as a set of standards or protocols that lets various types of networks intercommunicate. The most important protocol, called Transmission Control Protocol/Internet Protocol or "TCP/IP," enables communications between public and private networks running over any medium: analog or digital phone lines, traditional network lines, fiber, and even cable television wires and wireless systems. It is computer-independent, running across personal computers ("PCs"), Macintoshes, workstations, and mainframes. The Internet also encompasses numerous "intranets" and sector enterprise networks which, although operated privately, use the same physical networks, technologies and protocols. On the Internet, therefore, private and public uses are inextricably intertwined.

[4] Internet service providers offer consumers and businesses access to the Internet, including at least an IP connection to an Internet host/router and a "shell" UNIX account, but more typically offering a full Point-to-Point ("PPP") protocol IP connection, allowing the user to connect to the Internet using communications software on his or her own computer. ISP services include dial-up analog, ISDN, dedicated and frame-relay based Internet connections.

For the wealth of reasons explored in detail in this Opposition, the Commission cannot accept ACTA's premises or grant ACTA's extraordinary requested relief. This includes ACTA's absurd proposal for an FCC Order (essentially a preliminary injunction) prohibiting the sale or distribution of Internet telephony software. Software manufacturers are not telecommunications carriers subject to the Commission's jurisdiction. In any event, there is no need for a Commission Order to "maintain the status quo,"[5] because the traditional Commission approach to the Internet—treating the Internet as an "enhanced" service under *Computer II* rather than a common carrier service under Title II of the Communications Act of 1934—is working just fine. ACTA's naked claims aside, voice and video communications on the Internet do no violence whatever to the Commission's regulation of interstate long-distance services and are no threat to the infrastructure stability or continued growth of the Internet itself.

For nearly 15 years the FCC has treated "nondominant" interstate telecommunications carriers with regulatory "forbearance," letting the marketplace set prices and relying on competition, rather than regulation, to meet the Act's requirements of just, reasonable and nondiscriminatory rates. Despite judicial skepticism and reversals, the Commission's fundamental authority to forbear from application of Title II of the Act to competitive markets and entities was restored in the landmark Telecommunications Act of 1996.[6] Indeed, Section 10 of the 1996 Act makes application of forbearance man-

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[5] Petition at 9.

[6] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996)(to be codified at 47 U.S.C. § 151 *et seq.*). References to the 1996 Act will, for clarity, be to the sections of the Communications Act of 1934 as amended by the Act.

datory when the statutory criteria are met, which is manifestly true for Internet telephony services.

Consequently, the Commission has a duty in this proceeding to do more than simply reject ACTA's impertinent proposal that it assert jurisdiction over software companies which neither carry nor resell any interstate telecommunications services. The FCC must decide whether Internet voice communications meet the conditions set forth in Section 10(a) of the 1996 Act and, if so, "the Commission shall forbear from applying any regulation or any provision of this Act" to Internet telephony providers as a "class of telecommunications carriers or telecommunications services."

The answer to this question is readily apparent. Just six weeks ago the FCC proposed to apply mandatory forbearance to all interstate long-distance carriers, including AT&T Corp., on the ground that "the interstate, domestic interexchange market has evolved from a market of fledgling competitors overshadowed by a single, dominant service provider to a market characterized by substantial competition."[7] Having already concluded that the interstate telecommunications market is effectively competitive and that the forbearance standards of the 1996 Act are satisfied, the Commission should now apply that same determination to the provision of interstate telecommunications services via the Internet. *See* Section I *infra*.

Netscape,[8] Voxware and InSoft urge the Commission to move beyond ACTA's narrow tariffing and "certification" questions to grapple with the underlying issue of

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[7] *Policy and Rules Concerning the Interstate, Interexchange Marketplace*, CC Docket No. 96-61, FCC 96-123, ¶ 2 (released March 25, 1996)(*"Forbearance NPRM"*).

[8] Netscape (http://home.netscape.com) is the premier provider of open software that enables people and companies to exchange information and conduct commerce over the Internet and other global networks. Netscape offers a full line of software to enable electronic commerce and secure information

(Footnote continued on next page)

how, if at all, Title II regulation should apply to the emergence of the Internet as a medium for transmission of real-time voice and video services. Netscape, its affiliates[9] and partners like Voxware[10] are leaders in the new market for Internet voice and video services ("IVVS") by creating the open standards, protocols, compression technologies and software products necessary to enable transmission of interactive voice and video information over the Internet.[11] There are a huge variety of potential applications for

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exchange on the Internet and private TCP/IP-based networks, including three families of products: Netscape Navigator client software, Netscape Server software, and Netscape Commercial Applications. Netscape software products offer easy-to-use interfaces for serving and accessing multimedia information on the Net, including formatted text, graphics, audio, and video. The products are based on voluntary industry-standard protocols and are fully compatible with other Hypertext Transfer Protocol ("HTTP") clients and servers.

[9] On February 1, 1996 Netscape signed an agreement to acquire 100% of the stock of InSoft, Inc. (http://www.insoft.com), a leader in network-based communications and collaborative multimedia software. InSoft's applications include desktop collaboration and videoconferencing, distributed digital video, and its "CoolTalk" and "CoolView" software products for Internet audio, video and data communications. InSoft's Internet audio applications support a broad range of industry-standards and offer collaborative tools such as shared whiteboard (graphic/markup) and "chat" functionalities. InSoft has worked closely with RBOCs, equipment providers and carriers to integrate traditional voice communications with desktop applications, and has developed the industry's 1st-generation H.323 LAN conferencing gateway that bridges desktop videoconferencing solutions to ISDN/circuit-switched telephone systems. Netscape has incorporated InSoft's real-time audio and video technology into the latest release of its Internet software. *See* note 11 *infra.*

[10] Voxware (http://www.voxware.com) is a privately held developer of advanced voice-processing software for Internet, multimedia computing and communications applications. Voxware's patent-pending RT24 compressor/decompressor (codec) and "ToolVox for the Web" software support Internet-based voice and audio applications with high-quality speech at 2400 bps. This represents a 26.7:1 compression of bandwidth compared with the public switched telephone network. For instance, using this technology a full hour-long telephone conversation (with each party talking 45% of the time and 10% total silence) would represent only 450K of speech data in each direction. This requires substantially less bandwidth than a typical World Wide Web browsing session, where even a single, graphics-intensive Web page can consume 200-300K, and a user may browse several dozen pages per hour. As noted below, *see* Section II(C), it is technological developments such as these which refute ACTA's claim that voice communications are a threat to the performance and infrastructure of the Internet.

[11] Netscape has recently announced a broad-based industry coalition supporting an open standard for IVVS services called "LiveMedia," and has introduced the "beta" version of its market-leading World Wide Web "browser" software—Netscape Navigator 3.0—that incorporates voice and video capabilities. On March 20, 1996, Netscape licensed the data compression technology of Voxware for incorporation into the Netscape LiveMedia framework and made a non-controlling equity investment in Voxware. Based on open standards and interfaces, LiveMedia enables third-party real-time audio and video developers to offer products that interoperate with other LiveMedia-compatible applications. Netscape will publish the LiveMedia framework on the Internet, openly license key technology components of it, and

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these new technologies, all of which offer broader options for global communication among telephone subscribers and computer users. Much like microwave radio opened up the potential for interexchange telephone competition in the late 1960s and 1970s, in the 1990s Internet technology is rapidly opening the way for new forms of "intermodal" competition unanticipated a decade ago.

It is undeniable that Internet telephony is a procompetitive development that bolsters the "public interest" goals of the Communications Act. Supported by Netscape and others, the Internet community is on the verge of adopting open standards for the exchange of integrated voice, video and data communications via computers, including real-time transmission of voice and video services. A number of proprietary software applications, including the products of the respondents named in the Petition, are already commercially available for full duplex voice communications between computers with direct Internet Protocol ("IP") connections to the Internet. Over the coming months and years, these capabilities will be steadily expanded into a range of new communications capabilities, enabling such Internet-based applications as desktop video conferencing ("DVC"), small office/home office ("SOHO") telecommuting, and real-time, broadband transmission of IVVS.

It is also undeniable that the legal and regulatory uncertainty created by the ACTA Petition, and its state public utility commission analogs, is jeopardizing the development of Internet technologies. One of ACTA's goals is plainly to impose legal and regulatory costs on potential Internet-based competitors; it has unfortunately already

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work with the Internet standards bodies to facilitate the adoption of this technology as a formal Internet standard.

achieved that objective. Another of ACTA's goals, a more pernicious one, is to persuade the FCC to extend the present regulatory uncertainty into the future by opening a broad, unprincipled rulemaking to "define permissible communications over the Internet."[12] This invitation must be rejected. As Commissioner Chong recently testified to the House Subcommittee on Telecommunications, the Internet has been successful because "government has kept its mitts off."[13] The FCC should use this proceeding to clearly reaffirm that basic principle and make the "mitts off" policy a concrete reality—nationwide in the United States, and internationally.

Netscape, Voxware and InSoft therefore urge the Commission to take two additional steps, presented in full below, to preserve, protect and defend the Internet. First, the FCC should recognize that Internet communications are inherently interstate, and on that basis either classify Internet telecommunications services as "jurisdictionally" interstate or affirmatively preempt state public service commission regulatory authority over the Internet. *See* Section III *infra*. Second, the Commission should apply to the Internet the same procompetitive international policies it has historically used to promote the interests of US-based carriers in a competitive, deregulated international telecommunications environment, in this way helping to break down foreign Postal, Telephone and Telegraph ("PTT") agency barriers to global expansion of the Internet and Internet communications. *See* Section IV *infra*.

In sum, despite the plain fact that ACTA's Petition gives the wrong answers, the Commission should resolve the questions surrounding Internet voice and video serv-

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[12] Petition at 11.

ices by *forbearing, preempting and promoting* Internet communications and services. In this way, the FCC will not only remove the regulatory cloud presently surrounding Internet telephony, but fashion a principled basis on which the Internet can continue to evolve and expand without regulatory interference and with full government support for its liberating and "world-shrinking" potential.

DISCUSSION

ACTA does not disguise the fundamental point of its Petition: to prevent competition for interstate and international voice communications from Internet-based telephony software. Indeed, ACTA indicates unequivocally that it believes Internet telephony "threatens the continued [economic] viability of ACTA members." Petition at 3. Contending that the provision of so-called "free" long distance services "deprive[s] those who must maintain the telecommunications infrastructure of the revenue to do so," ACTA characterizes Internet telephony as "unregulated bypass" and "unfair competition," asking the Commission to intervene in order to eliminate "serious economic hardship on all existing participants in the long distance marketplace." *Id.* at 4.

This is a blatant plea for regulatory protectionism. It contradicts long-standing FCC policies regarding the role of competition in the interstate telecommunications market, conflicts with the proper approach to communications regulation in an era of robust technological innovation, and undermines the procompetitive, deregulatory mandate of the Telecommunications Act of 1996. Neither the public interest nor

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[13] *See* "Fields Cautions FCC on Telecom Act Enforcement," *Communications Daily*, March 28, 1996, at 2.

Commission policy support the use of regulation to protect the economic viability of any provider of interstate long distance services. The Commission's role is to protect competition, not competitors.

ACTA's argument that the Commission "has the authority to regulate the Internet" under the Communications Act, Petition at 5, is incorrect. The FCC certainly has jurisdiction over Internet communications, in that the Internet offers communication "by wire or radio" within the meaning of Section 1 of the Act, 47 U.S.C. § 151, but ACTA's suggestion that jurisdiction equates to Title II regulatory authority is meritless. The Commission's settled distinction between "basic" and "enhanced" telecommunications, largely codified in the 1996 Act, as well as the 1996 Act's establishment of a "national policy" that the Internet remain "unfettered" by regulation, clearly demonstrate that the Commission cannot lawfully regulate the Internet or define "permissible uses" of Internet technology. In this light, the ACTA Petition actually provides this Commission with a useful opportunity to avoid costly and burdensome regulatory litigation by affirmatively applying "forbearance" and a uniform policy of non-regulation to the Internet and all Internet communications.[14]

[14] First, the Commission should—indeed must—apply its "forbearance" policy to Internet-based telecommunications services, relying on marketplace competition instead of tariffing regulation to satisfy consumer needs and the Act's requirements. *See* Section I *infra*. Second, the Commission should take this opportunity to declare that Internet communications, like other predominantly interstate communications services, are interstate for jurisdictional purposes—and assert exclusive jurisdiction over Internet regulation or affirmatively preempt state regulation of the Internet and Internet services. *See* Section III *infra*. Third, the Commission should continue the government's important role in Internet development by promoting Internet needs in US relations with foreign and international communications regulatory bodies, as it has for international voice, satellite and other services of US-based communications entities. *See* Section IV *infra*.

I. THE COMMISSION'S TRADITIONAL "FORBEARANCE" POLICY SHOULD BE APPLIED TO INTERNET VOICE AND VIDEO SERVICES

Leaving aside the jurisdictional issues raised by the Petition (*see* Section II *infra*), ACTA's requests for Commission relief cannot be squared with settled Commission policy, reaffirmed and codified in the Telecommunications Act of 1996. For decades the FCC has consistently ruled that "enhanced" communications services—epitomized by the Internet—are not subject to the same regulatory scheme applicable to "basic" telecommunications services. Likewise, the historic deregulatory policies of the *Competitive Carrier* rulemaking, under which the FCC "forebears" from Title II regulation of non-dominant interstate carriers, are fully applicable to the purported Internet "telecommunications services" ACTA challenges in this proceeding.

A. Application of Forbearance to Internet Telephony is Required by the Commission's Settled Policies and the 1996 Act

Beginning with *Computer I* in 1971 and extending to *Computer III* in 1991, this Commission has made clear the distinction between enhanced and basic communications services. "Enhanced" services are those that employ computer processing applications acting on the content, code or protocol of data, or which involve subscriber interaction with computer databases. 47 C.F.R. § 64.702(a). Unlike "basic" telecommunications services, enhanced services are not subject to Title II regulation and are classified as unregulated services for purposes of Commission oversight of local exchange carriers and other dominant carriers. Indeed, enhanced services may *not* be provided as tariffed services pursuant to Title II of the Act. *Computer II Final Decision*, 77 F.C.C.2d 384, 428 ¶ 114 (1980)(*"Computer II"*).

The purpose of this regulatory distinction, as the Commission emphasized in *Computer II*, is to foster the unregulated growth and development of new, competitive information service technologies and media:

> As the market applications of computer technology increase, communications capacity has become the necessary link allowing the technology to function more efficiently and productively. . . . As a result, the computer industry and the communications industry are becoming more and more interwoven. . . . The distinction we adopt today recognizes that development and indeed should encourage its continuation. . . . [I]t draws a clear and, we believe, sustainable line between basic and enhanced services upon which business entities can rely in making investment and marketing decisions. . . . [I]n conjunction with our decision on the regulatory scheme applicable to such services, it *removes the threat of regulation from markets which were unheard of in 1934 and bear none of the important characteristics justifying the imposition of economic regulation by an administrative agency.*

Id. at 422-23 (¶¶ 100-01)(emphasis supplied). This objective has been an unparalleled success, as enhanced information services have flourished over the past two decades, and the United States as a result leads the world in computer-related information service applications.

The Commission's basic/enhanced dichotomy is codified in the Telecommunications Act of 1996, which differentiates "telecommunications services"—those that transmit information of the subscriber's choosing "without change in the form or content"—from "information services"—those that offer a capability "for generating, acquiring, storing, transforming, processing, retrieving, utilizing or making available information via telecommunications."[15] It is beyond debate that the Internet is the archetypal example of an "information service" under the 1996 Act and an "enhanced"

[15] 47 U.S.C. §§ 153(41), 153(51).

service under the Commission's Rules. Not only do *all* Internet applications employ computer processing, but the Internet itself is a network of interconnected clients, hosts, routers and gateways that request, store, direct, transport, retrieve and utilize data to deliver to Internet users information different from a subscriber's transmissions. Overlaid on a packet-switched network backbone, the Internet protocols convert, process, modify and encode/decode information for applications ranging from e-mail to file transfer ("FTP") to integrated display of text and graphical data files on the World Wide Web.[16]

As "enhanced" information services, Internet communications are not subject to the Title II regulation ACTA demands. And Internet telephony itself may well not be a common carrier telecommunications service. Section 153(49) of the 1996 Act provides that "a telecommunications carrier shall be treated as a common carrier only to the extent that it is engaged in providing telecommunications services." 47 U.S.C. § 153(49). Thus, the Act adopts the Commission's long-settled approach of limiting Title II

[16] The Commission's determination that protocol conversion should be classified as an enhanced service, with only minor exceptions for functions ancillary to basic communications (such call setup, call routing, calling party identification, billing and accounting), aptly illustrates the enhanced nature of Internet communications. *E.g., Communications Protocols Under Section 64.702 of the Commission's Rules and Regulations*, 95 F.C.C.2d 584, 590-91 ¶¶ 13-15 (1983). While the Commission has held that frame relay packet switching services are not properly classified as enhanced because they "offer a transmission capability that is virtually transparent in terms of its interaction with customer-supplied data," *Independent Data Communications Manufacturers Ass'n*, 10 FCC Rcd. 13717, 13722 ¶ 34 (1995), the Internet by definition functions as a medium in which subscriber-supplied data is modified and converted during transmission. Unlike X.25 packet switching, which is a transit-oriented routing protocol providing a "virtual circuit," the Internet is a distributed host-to-host and application-to-application networking protocol. For instance, an Internet's user's "transmission" of a World Wide Web address (URL) is treated by the Hypertext Transfer Protocol ("HTTP") as an instruction to deliver to the user's client computer the Hypertext Markup Language ("HTML") documents, and associated graphics, animation, audio and "embedded" computer files, stored on a remote host computer, without any direct or static connection with that host. Thus, classifying Internet communications as "basic" services merely because data is transported and routed via an underlying packet switching network would eviscerate the *Computer II* regime.

regulation to common carrier offering of basic telecommunications services. Because a "telecommunications service" requires the offering of telecommunications "for a fee directly to the public," *id.* § 153(51), and because ISPs and other Internet access providers merely offer "IP access"—a computer connection to the Internet itself—for regulatory purposes there is no common carriage involved in Internet telephony. As discussed below, moreover, identification of any single "carrier" for IVVS services is a technical impossibility in the new paradigm of the Internet—a *connectionless* protocol for communications traversing multiple interconnected carrier networks.

Even if Internet voice communications are properly deemed "telecommunications services," the Commission is still not authorized to impose the Title II regulation on which the ACTA Petition is based. Since 1980, the Commission has held that provision of interstate interexchange telecommunications services by "nondominant" carriers, those carriers without market power, is subject to "forbearance" from Title II regulation.[17] The forbearance doctrine is designed to achieve the Act's purposes of just, reasonable and non-discriminatory rates "effectively through market forces and the complaint process," instead of tariff regulation, and thus to "promote competition and deter price coordination."[18] Under Section 10 of the 1996 Act, the Commission's power to apply the *Competitive Carrier* forbearance regime is not only restored, but made mandatory. Thus, the Commission "shall" forebear from applying Title II where regulation

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[17] *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, First Report and Order, 85 F.C.C.2d 1 (1980). The complete history of the *Competitive Carrier* rulemaking appears at footnote 6 of the *Forbearance NPRM*.

[18] *Forbearance NPRM* ¶¶ 28, 30.

"is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with" a carrier, service or class of carriers or services "are just and reasonable and are not unjustly or unreasonably discriminatory."[19]

Plainly, no Internet voice "telecommunications carrier" enjoys any market power over interstate long-distance telecommunications. Internet telephony is a perfect example of the nondominant, competitive provision of a communications service. Furthermore, acting quickly to implement the 1996 Act's directives, the Commission has recently proposed applying mandatory forbearance to all basic interstate, interexchange telecommunications services. Coupled with the Commission's 1995 decision reclassifying AT&T as a nondominant carrier,[20] *there is no conceivable legal or policy justification for imposing Title II regulation on Internet IVVS when the Commission is simultaneously prepared to forbear from regulation of the entire interstate long distance marketplace.*

Indeed, the 1996 Act established a national policy of preserving the "vibrant free market" of the Internet "unfettered by Federal or State regulation." 47 U.S.C. § 230(b)(2). Thus, consistency with the Commission's *Competitive Carrier* policies and the 1996 Act requires that the same forbearance policy applied to interstate interexchange telecommunications services in general be extended to Internet voice telecommunications. In the context of the Commission's overall Communications Act obligation to make available to Americans the best communications services at the most reasonable prices, the history of FCC regulation clearly demonstrates the wisdom of for-

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[19] 47 U.S.C. § 10(a)(1)-(3). *See Forbearance NPRM* ¶ 17.

[20] *Motion of AT&T to be Reclassified as a Non-Dominant Carrier*, FCC 94-247 (released Oct. 23, 1995).

bearance and its market-oriented approach to regulation. Forbearance from regulation of Internet telephony services is also the wise choice here.

B. Regulation of IVVS Would Present Difficult and Potentially Insoluble Technical Problems

Quite apart from these legal and policy considerations, regulation of Internet telephony and IVVS would raise difficult, and likely insoluble, technical issues. These technical impediments stem from the basic fact that the Internet is a unique medium which does not fit at all comfortably within the model of telecommunications regulation traditionally applied to circuit-switched public telephone networks.

First, there is no identifiable "carrier" of IVVS communications because no single network provides end-to-end, or even "POP to POP," transport of Internet data. The Internet is a seamless collection of interconnected computer networks, each of which transfers packet data dynamically back and forth to all other networks on the Internet. Indeed, an ISP, such as Netcom or PSINet, or online service provider ("OSP"), such as CompuServe or America Online, merely transports TCP/IP packets to the next IP router "up the line," typically a "mid-level" or backbone Internet gateway. Moreover, unlike circuit-switched telephone networks, the Internet is designed to function without any connection—dedicated, switched or "virtual"—between Internet users. The Internet protocols function by sending data packets on any available path, with dynamic, self-adapting routing,[21] and the data comprising an Internet "call" can therefore be handled

[21] Unlike switched telephony, Internet routers have no fixed routing tables, but rather dynamically update themselves by "talking" autonomously to other routers on the Internet in order to find available paths over which to transmit Internet data packets. There is no certainty that IP packets will follow the same path for a continuing stream of data or session; and if underlying connectivity is broken or if congestion arises, an almost infinite array of alternative paths could be employed without the user or ISPs knowing it.

by numerous different networks, with different portions of the "call" being routed over completely different computer networks. Thus, there simply is no single entity that could be identified as the "carrier" of an Internet voice communication.[22]

Second, isolating and measuring Internet IVVS communications is technically infeasible. There is no way for the TCP/IP protocol to distinguish Internet "voice" packets from other data packets. Although at some future point IVVS may be provided under a separate Internet protocol, with a unique data "header," currently there is nothing unique about Internet telephony data[23]—in other words, "a packet is a packet." This is true, for a different reason, for all the varied Internet applications. E-mail, FTP, HTTP (WWW), etc., are all indistinguishable to ISPs because there is no provision in the Internet architecture for "sniffing" headers to identify the application or protocol associated with Internet data transmissions. To do so, and thus to "meter" specific Internet applications, would necessitate not only an elemental reconfiguration of the Internet's architecture, but creation of such massive "overhead" requirements as to compromise the basic functionality of the network itself.

Third, applying a per-minute rate to Internet telephony "calls" would be impossible or extraordinarily uneconomic. If there is no single Internet IVVS carrier, and if

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[22] It is perhaps for this reason that ACTA contends that it is the providers of Internet telephony software who are telecommunications "carriers," because otherwise it would need to ask for Commission regulation of each and every ISP and all other providers of Internet access. As discussed in Section II(A), this theory is completely invalid.

[23] A Real-Time Protocol ("RTP") for the Internet is presently under development, but it is only a proposed standard, is still undergoing modifications and additions, and encompasses all real-time data transactions on the Internet, not just Internet voice communications. Accordingly, even when RTP is finalized it will still not serve as a basis for regulatory identification of Internet-based telephone calls.

there is no efficient technical means to identify Internet IVVS communications, application of a tariffed rate for Internet voice communications would be impossible.[24] Furthermore, virtually all ISPs and OSPs are moving toward "flat-rate" pricing structures, under which IP access is offered to users, without regard to application or message volume, in large blocks of time, ranging from 10-30 hours to monthly packages.[25] Thus, accepting ACTA's invitation to mandate tariffing of Internet telephone "rates" would require the Commission to directly impact the pricing structures and options available in the vibrantly competitive Internet access market, as the Internet market is based on a pricing system incompatible with typical pricing structures for interstate telecommunications services.

In short, even if the Commission desired to apply Title II regulation and tariffing requirements to Internet "telecommunications services," there is no technically feasible way to do so without fundamentally upsetting the autonomous, competitive structure of the Internet market and the communications efficiency of the Internet itself. The better approach, compelled under the 1996 Act's forbearance provisions, is to refrain from application of Title II to all telecommunications services provided via the Internet

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[24] There is also no reliable way to measure call "length" on the Internet, in addition to the inability to separate Internet voice communications. On telephone networks a circuit between endpoints is established, and usage of that circuit can be metered and recorded. On the Internet, there is not circuit to meter, and because the Internet is designed as a "connectionless" protocol, no guarantee that all data transmitted will be received. Thus, a packet-switched Internet "call" can be completed even if there are insufficient network resources, because packets can be rerouted, lost or delayed. By the same token, there is no such thing on the Internet as an absolute call "length," because packet loss is built into Internet telephony software so that users experience a graceful degradation of quality rather than a dropped "connection."

[25] Many large-volume Internet users, especially educational, government and corporate networks, utilize T1 or other dedicated, high-capacity telecommunications facilities for their Internet connections. While these underlying telecommunications facilities are often flat-rate priced, that of course does not necessarily translate into a "price" for Internet access, let alone the much smaller subset of IVVS.

and rely on marketplace competition in lieu of regulation. Adopting this approach would allow the Commission to avoid having to make the difficult legal and technical determinations involved in separating any Internet telecommunications services from the far larger body of enhanced services provided on this unique and continually evolving medium.

II. ACTA'S PETITION IS BEYOND THE COMMISSION'S JURISDICTION AND REPRESENTS POOR PUBLIC POLICY

Applying forbearance to Internet IVVS traffic would comport with the Commission's traditional procompetitive policies in the interstate telecommunications market and have the added benefit of extricating the Commission from the need to decide the precise scope of its regulatory authority over Internet communications. In two respects, however, ACTA's Petition seeks relief that is clearly beyond the FCC's jurisdiction: (a) ACTA's demand that the Commission regulate providers of Internet telephony software; and (b) the Petition's request that the FCC initiate a rulemaking to "define permissible uses" of the Internet. And as a public policy matter, regulation of Internet communications in order to shield existing interexchange long distance providers from competition, as ACTA recommends, would embroil the Commission in a scheme of regulatory protectionism that is completely alien to appropriate policy in a competitive telecommunications industry.

A. The Commission Lacks Jurisdiction to Regulate Manufacturers of Computer Software

ACTA's claim that providers of Internet telephone software are "telecommunications carriers . . . subject to FCC regulation like all telecommunications carriers"

is preposterous.[26] IVVS software manufacturers are neither enhanced service providers nor telecommunications carriers.

The Commission enjoys no statutory jurisdiction over computer software providers. It is clear, moreover, that software which *enables* communication is itself not a telecommunications service for Communications Act purposes. In the traditional environment of circuit-switched telephony, there are a variety of entities that supply software for operating telecommunications networks, none of whom has ever been deemed subject to FCC jurisdiction. These include, for instance, providers of software for switching and signaling in the public switched telephone network—from "800 database" software, to the software routinely used in local central office and access tandem telephone switches, to the software making Signaling System 7 and related "out-of-band" services like Caller ID possible. If Internet telephone software providers are common carriers, so too are Nortel, Siemens, DSC and all other manufacturers of software for telecommunications network equipment. Thus, classifying Internet telephone software providers as telecommunications carriers cannot be harmonized with the Commission's treatment of software providers for traditional long distance services.[27]

The 1996 Act's definition of "telecommunications service" makes plain that software providers are not carriers because they do not offer "telecommunications for a fee," but rather sell software products. Sections 223 and 230 of the 1996 Act reinforce the conclusion that computer software is not itself a communications service. The Act

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[26] Petition at i, 6-7.

[27] Internet telephone software is, if anything, customer premises equipment ("CPE") for regulatory purposes, because it functions to enable a user's computer and peripheral devices to communicate over the Internet. As noted in Section III, CPE providers are unregulated under *Computer II*, CPE is detariffed, and state regulation of CPE has been preempted by the Commission.